

Hingtgen, Robert J

From: Donna Tisdale <tisdale.donna@gmail.com>
Sent: Wednesday, January 07, 2015 12:31 PM
To: Hingtgen, Robert J
Subject: Soitec troubles
Attachments: Soitec trouble - media & DOE peer review.pdf

Hello Robert,

For the Administrative Record of the Soitec Solar Development Project, please post the attached compilation of recent Soitec Solar media coverage with the August 2014 DOE Peer Review report which document the following:

- CPV is no longer considered cost effective or competitive
- Termination of Soitec's Power Purchase Contracts with SDG&E and other developers
- The related 60% or so loss in stock value
- Reduced production at Soitec's now troubled CPV manufacturing facility at San Diego

The 2-page DOE peer review summary even makes a comparison to the failure of Solyndra, stating that cost efficiency trumps thermodynamic efficiency any day.

Thank you

Donna Tisdale
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Soitec Workers Still in the Dark About the Company's Future in SD

BY: LISA HALVERSTADT [CONNECT](#) | 8 HOURS AGO | 0 COMMENTS



Photo courtesy of Soitec

Soitec CEO Andre-Jacques Auberton-Herve, Gov. Jerry Brown and SDG&E CEO Jessie J. Knight attend Soitec's dedication event in 2011.

French solar producer Soitec, which opened its Rancho Bernardo plant with significant local and national backing, [announced](#) last week it would “implement an immediate scale down” of the factory and cut costs.

Just how deep those reductions run and what they mean for the company's future in San Diego remains unclear.

The company's stock prices tumbled nearly 60 percent following a Dec. 19 [Voice of San Diego](#) story that revealed the company's struggle to hold onto crucial contracts that drew it to the region.

At the time, Soitec and San Diego Gas & Electric disagreed over whether the solar company still held a handful of lucrative contracts. Another high-profile deal with an Omaha-based Tenaska Solar Ventures also fell apart in 2014.

Soitec has since confirmed its SDG&E agreements are history. A Soitec spokeswoman said the plant's 250 workers were informed of the news and the need to scale back in the New Year as the company kicked off a planned two-week holiday closure earlier this month.

Soitec Vice President Clark Crawford played down the loss of the SDG&E in an [interview with U-T San Diego](#) last week. He said international business would eventually bolster the Rancho Bernardo plant.

“This is the failure of one project, of many projects that feed our demand,” Crawford told the U-T.

The company hasn't provided specific details on those other projects or new ones that might kick off in 2015 but noted in a [statement released last week](#) that it “continues to explore new opportunities with its local partners in order expand its US pipeline.”

San Diego is home to the French company's solar manufacturing headquarters, a distinction it's held since the company [halted work at another facility](#) in Freiburg, Germany, in 2013.

In recent weeks, solar industry analysts have zeroed in on Soitec's struggles as another example of the challenges facing producers of concentrated photovoltaic panels, which are more efficient but require more sunlight than traditional solar equipment. They're also more expensive, and better suited for large-scale utility company projects than small rooftop installations.

Those smaller installations rely on photovoltaic panels, which have become cheaper over the years.

Industry news site Greentech Media [detailed those dynamics](#) last week:

[The price to install silicon-based PV](#) has plummeted due to volume and China, but CPV has not participated in this price drop. CPV's reliance on high-precision trackers and high-cost semiconductors has negated its efficiency gains. This information has been available to the people and government of San Diego for years.

But Cleantech San Diego Chairman Jim Waring, who helped lure Soitec to the region, said Soitec's struggles shouldn't be seen as a failing of an otherwise successful local solar sector.

Regional leaders rolled out the red carpet for Soitec two years ago, offering [state enterprise zone tax incentives](#) and the city sped up the permitting process. The federal Department of Energy also handed the company a [\\$25 million grant](#) to expedite factory construction.

At the time, Waring said, the vision was that Soitec's large-scale CPV production would allow it to manufacture at a lower cost that would allow it to compete with traditional solar panel manufacturers. And San Diego would get 450 high-paying manufacturing jobs and more diversity in alternative energy sources.

That plan was disrupted by a swift decrease in the cost of traditional panels that made CPV panels like Soitec's less attractive to consumers and by the big Soitec deals that've fallen apart. Soitec delivered far fewer jobs and less power than it promised.

Now the 250 jobs that did materialize are up in the air.

A Soitec spokeswoman declined to say what may come next. Waring said earlier this week he was awaiting an update.

"The most serious issue is the 250 people who work at Soitec. And Soitec made a huge financial and emotional commitment to this region and has suffered a significant balance sheet loss," Waring said. "That's just mind-numbingly serious."

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<http://voiceofsandiego.org/2015/01/02/soitec-workers-still-in-the-dark-about-the-companys-future-in-sd/>

CPV Hopeful Soitec Latest Victim of the Economics of Silicon Photovoltaics



Disappearing contracts put CPV developer Soitec and its San Diego factory in trouble.

Eric Wesoff

December 22, 2014

When we reported last month that France's Soitec was among the last companies standing in concentrating photovoltaics (CPV), we might have spoken too soon. Reports indicate that Soitec's CPV factory in San Diego is on its last legs and its contract with local San Diego utility SDG&E is suspect.

Filling the factory to capacity depended on a project in Imperial Valley, Calif. with Omaha-based Tenaska Solar Ventures going through. But Tenaska switched to less expensive, less risky technology earlier this year.

Voice of San Diego reports, "The Tenaska deal is now history," and Soitec confirmed that the SDG&E agreements are in jeopardy. According to the Voice report, Clark Crawford of Soitec "was pleading with [CPUC] officials to force Tenaska to use Soitec products in its project."

There appears to be massive miscommunication between SDG&E and Soitec. "SDG&E does not have any contracts with Soitec," said utility spokesperson Jennifer Ramp. Soitec claims that SDG&E declines to discuss the issue and may let the PPAs terminate.

Then there's the CPV module factory in Rancho Bernardo, which received \$25 million in a DOE grant and has produced 5 megawatts of CPV product so far, according to the firm. The 176,000-square-foot factory was to have an annual capacity of 200 megawatts and create 450 jobs. Soitec claims to have invested \$200 million in its construction. The \$25 million grant was from the DOE's SUNPATH program, which aims to foster a competitive American solar manufacturing base.

A red flag was raised when Gaetan Borgers, the executive VP of Soitec's CPV group, left the French firm to become president of the solar unit at Emirates Capital in August. Another red flag was the recent business and PR mishap that came with Soitec announcing sale of its PPAs to another developer, only to see that deal apparently collapse.

Soitec and Soitec's PR agency have not responded to GTM's inquiries.

SDG&E issued the following statement:

"Since 2011, SDG&E, along with other regional partners, has worked very hard to bring Soitec to San Diego with a focus on helping them be successful. SDG&E has taken unprecedented action to work with Soitec, amending contracts, extending milestone deadlines and seeking additional CPUC approvals over the years so that we could bring additional renewable resources into the San Diego community, but Soitec has historically not been able to meet the extended deadlines and other milestones in the contracts. Earlier this year, Soitec assigned their contracts to third-party developers. Therefore, we no longer have a direct business relationship with Soitec."

The signs are clear -- this deal is toast and the factory is in trouble.

CPV Technology

Soitec builds its own multi-junction semiconductor, high-concentration PV systems, and also helps develop and finance its projects. Soitec's technology allows photovoltaic III-V semiconductor layers to bond together with a minimum of lattice-mismatch drama. Soitec has a 44-megawatt project in Touws River, South Africa still in development and approximately 75 megawatts' worth of CPV projects in the ground.

But CPV competes with silicon-based solar, a losing bet for CPV firms as well as most thin-film solar firms looking to displace silicon. The price to install silicon-based PV has plummeted due to volume and China, but CPV has not participated in this price drop. CPV's reliance on high-precision trackers and high-cost semiconductors has negated its efficiency gains. This information has been available to the people and government of San Diego for years.

CPV has a 0.25 percent global market share of the 40 gigawatts of PV being installed in 2014. That figure comes courtesy of an optimistic forecast of 100 megawatts installed this year. But compared to crystalline silicon, CPV's riskiness in terms of price, reliability and bankability has prevented the technology from achieving commercialization and scale.

We've logged the attrition in the CPV industry and are keeping an eye on the surviving aspirants. SunPower is the only U.S. manufacturer of note. The company claims that its C7 Tracker has up to a 20 percent lower levelized cost of electricity than competing technologies, contending that it provides "the lowest levelized cost of electricity for utility-scale solar power plants available today."

There are other CPV firms: Arzon is the company that remains after the venture capitalists departed from Amonix. Semprius, REhnu, Morgan Solar, Solar Junction, Banyan Energy, Cogenra, SolarSystems, Zytech Solar, Magpower, Ravano Green Powers, Cool Earth Solar and a few other startups are still trying to compete with crystalline silicon.

<http://www.greentechmedia.com/articles/read/CPV-Hopeful-Soitec-Latest-Victim-of-the-Economics-of-Silicon-Photovoltaics>

Rancho Bernardo solar firm crippled by SDG&E pullout

By Morgan Lee 8:44 a.m. Dec. 20, 2014



Soitec and government officials flipped the switch to conclude the Rancho Bernardo solar panel manufacturing plant's opening ceremony. Photo by Beverley Brooks

Solar manufacturer Soitec is scrambling to salvage crucial contracts for its San Diego, after San Diego Gas & Electric announced the end of its business relationship with the French company.

The U.S. Department of Energy contributed \$25 million to the factory's construction in 2012 with the goal of boosting a promising solar technology and creating skilled U.S. jobs.

The Rancho Bernardo assembly line employs 250 people. Employees were told this week that it's likely the facility would go into cost-cutting mode in January, a representative for Soitec said Friday.

To underwrite its factory in Rancho Bernardo, Soitec had lined up contracts to supply 305 megawatts of its signature solar trackers to utility-scale solar plants, mostly in the Imperial Valley and southeastern San Diego County. Amid permitting delays and shifting economics for solar technology, nearly all of the contracts have fallen through or face uncertainty.

Soitec Vice President Clark Crawford said the company is "working to obtain a meeting with SDG&E to find a viable path forward to preserve the power purchase agreements, which will maintain the long-term viability of our factory."

SDG&E, a key partner in contracts underwriting Soitec's \$200 million investment in the assembly line in Rancho Bernardo, announced in a statement Friday that "we no longer have a direct business relationship with Soitec."

SDG&E said it had taken "unprecedented action to work with Soitec, amending contracts, extending milestone deadlines and seeking additional California Public Utilities Commission approvals. ... But Soitec has historically not been able to meet the extended deadlines and other milestones in the contracts."

Soitec's facility in San Diego has supplied solar equipment to 1 megawatt solar plant in Newberry Springs and a roughly 5 megawatt facility in Borrego Springs, and has otherwise kept active equipping new solar farms overseas in China, South Africa and other countries.

Soitec's concentrated photovoltaic technology differs from the common silicon panel seen on residential rooftops and big solar farms. It uses a lens to focus light on a highly efficient cell no bigger than a ladybug. The lenses and cells are bundled into panels the size of a double garage door, then mounted on trackers that follow the sun.

In August, a peer review of the Energy Department grant to Soitec raised concerns about the company's ability to compete with less-expensive conventional solar panels. The cheapest technology — not necessarily the most energy efficient — is likely to prevail, the experts said.

Engineers at SDG&E embraced concentrated photovoltaic solar technology because it provides a steadier electricity supply throughout the day, helping cope with high power demands late on summer days.

Soitec's first difficulties in Southern California emerged when solar contractor Tenaska backed out of using Soitec technology at facilities in the Imperial Valley, scrapping a 150 megawatt commitment.

Soitec is going through a lengthy permitting process for several of its own solar power plants at Boulevard. Faced with delays, Soitec attempted recently to transfer obligations for 150 megawatts of power purchasing agreements with SDG&E to a project in the Imperial Valley by an unnamed developer. That deal is up in the air, without a guaranteed buyer for the solar energy

Lee writes for UT San Diego, the owner of UT Community Press.

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The Darling of San Diego Solar Manufacturing Is on Its Death Bed

BY: LISA HALVERSTADTCONNECT | 18 HOURS AGO | 7 COMMENTS



Photo courtesy of Soitec

Soitec celebrated its new Rancho Bernardo factory in 2011 in a ceremony attended by Gov. Jerry Brown and other political and business officials.

San Diego's Prized Solar Factory Is Struggling

What It Is

- Soitec is one of San Diego's only solar manufacturers. It came here with the promise of power contracts with San Diego Gas & Electric and a project with Tenaska Solar Ventures.

What Happened

- The Tenaska deal is now history, and Soitec confirmed Friday its SDG&E agreements are also in peril. In fact, SDG&E and Soitec disagree on whether their contract even still exists.

A San Diego solar factory that rode into town on a wave of fanfare and government assistance is now on its last leg.

Soitec, one of the region's only solar manufacturers, came to San Diego in 2011, bolstered by the promise of lucrative power contracts with San Diego Gas & Electric and a project in Imperial Valley with Omaha-based Tenaska Solar Ventures. Those deals were crucial to the company's decision to build its plant in Rancho Bernardo.

The Tenaska deal is now history, and Soitec confirmed Friday its SDG&E agreements are also in peril.

In fact, SDG&E and Soitec disagree on whether their contract even still exists.

Local Soitec chief Clark Crawford said the company has sought meetings with SDG&E for weeks in hopes of discussing the future of its contract.

"To date, they have declined to discuss the issues directly with us," Crawford said in a statement. "If they continue to decline a meeting with us today we fear they may allow the power purchase agreements to just terminate."

SDG&E, meanwhile, says it's gone out of its way to accommodate Soitec and that the company's statements about the status of its contract aren't true.

"SDG&E does not have any contracts with Soitec," utility spokeswoman Jennifer Ramp said.

It wasn't supposed to be this way.

Soitec, one of the region's only solar manufacturers, made national headlines in 2011 when it [opted to come to San Diego](#). The French company promised 450 local jobs and at least 200 megawatts of solar production a year.

Soitec's arrival was supposed to be a shining example that large-scale manufacturing was possible in San Diego after all. State, local and national leaders lined up to make Soitec a success.

In the months following the 2011 announcement, the company received a [\\$25 million grant](#) from the federal Department of Energy to expedite construction of its San Diego home and signed on for [state enterprise zone tax incentives](#). The city put its permits on fast-forward.

All that help would ensure the company hit the ground running, Soitec said.

It also had the crucial SDG&E and Tenaska contracts.

"Our recent announcement worldwide shows that we have the perfect technology for the new wave of growth into solar markets," Soitec CEO André-Jacques Auberton-Hervé said as the company's Rancho Bernardo plant was [dedicated in December 2011](#).

All that has crumbled.

"The expectation that formed the basis of Soitec's investment in California has not been realized," Crawford said in a declaration submitted to the state Public Utilities Commission earlier this month, pleading with officials to force Tenaska to use Soitec products in its project.

Soitec has produced far fewer solar panels than initially laid out in its local power agreements.

Project cancellations and reductions have meant only about five megawatts' worth of solar panels – enough to power thousands of homes – have been manufactured in San Diego, Crawford said in the document.

The company initially planned to produce 305 megawatts of solar panels in its SDG&E-tied projects alone.

Soitec is considered the world leader for [concentrated photovoltaics panels](#), or CPV panels, which are more efficient but require more sunlight than traditional solar equipment. They're also more expensive, and are better suited for large-scale utility company projects than small rooftop installations.

CPV panels only made up 0.25 percent of the global market share for panels installed in 2014, according to industry news site GreenTech Media, which noted Soitec was one of only three companies “hanging on to any semblance of a functioning commercial enterprise.”

As Soitec was setting roots down in San Diego, other companies that made the niche solar panels were already floundering.

Scottsdale, Ariz.-based Stirling Energy Systems filed for bankruptcy in September 2011. German company Solar Millennium filed for insolvency in December 2011. And Soitec competitor Amonix, based in Seal Beach, closed its Nevada plant in July 2012.

But SDG&E and Soitec proponents went all in for the company anyway.

The tradeoff would be great energy diversity for SDG&E, which was required to hit a 33 percent renewable energy target by 2020, and the 450 high-quality jobs.

Then Soitec’s plans to build four solar power plants in Boulevard hit repeated delays.

Tenaska opted not to use Soitec’s CPV panels in its project after all. The decision went public this April.

Tenaska said it parted ways with Soitec after the company couldn’t provide information sought by a Tenaska construction contractor to guarantee Soitec could deliver on the promises in the energy contract.

“The project schedule necessitated moving forward with a different engineering, procurement and construction contractor and a different technology,” said Delette Olberg, Tenaska’s vice president of government and public affairs.

The SDG&E agreements, held up as primary evidence of Soitec’s ability to flourish in California, also hit major hurdles.

An SDG&E spokeswoman said the company allowed an “unprecedented” 19 amendments to its five Soitec deals to help the company deliver on the promises in those contracts, including deadline extensions and location changes. (Soitec says it only pushed for two of those changes and that SDG&E is counting amendments applied to the company’s contracts multiple times.)

All those contracts eventually went to other groups.

First came the April announcement that Chicago-based Invenergy Solar Development would take over Soitec’s Borrego Springs project. Then in October came the news that “one of the largest providers of solar energy services in North America” had bought out Soitec’s four remaining SDG&E agreements. The company never disclosed the name of that the buyer.

Soitec said that project would involve up to 83,400 solar modules produced at the company’s San Diego factory.

Auberton-Hervé, Soitec's CEO, put a positive spin on the sale.

"This is an important milestone in executing Soitec's strategic plan, as this agreement will provide significant demand to our U.S. solar manufacturing operation," he said in a release.

Soitec now says that deal wasn't consummated.

"The company that they were originally transferred to was unable to work through all of its major milestones and therefore the power purchase agreements were transferred back to Soitec this week," Soitec spokeswoman Karen Hutchens said.

SDG&E maintains it doesn't have any contracts with Soitec – a glaring disconnect between the two companies.

Soitec's recent California Public Utilities Commission filing underscores the company's struggles here.

Soitec invested more than \$200 million in its San Diego factory, Soitec attorney Jerry Bloom wrote to the commission earlier this month. Bloom later claimed "the social and economic benefits" of the San Diego Soitec plant were negated by the loss of the Tenaska contract.

The situation for Soitec apparently only got worse after that Dec. 5 filing.

Mark Cafferty, CEO of the San Diego Regional Economic Development Corp., was one of Soitec's early cheerleaders.

He acknowledged Friday he and others were excited about what clean technology could mean for California, and the possibility of attracting a manufacturing company to San Diego.

"Everybody was working very hard to make this happen. If we missed writing on the wall ... it's possible," Cafferty said. "It's a very entrepreneurial sector, a new sector and a changing sector. There are lots of companies that start and fail and others that hit home runs. Hopefully Soitec was going to be one of those companies."

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Lisa Halverstadt is a reporter at Voice of San Diego. Know of something she should check out? You can contact her directly at lisa@vosd.org or 619.325.0528.

<http://voiceofsandiego.org/2014/12/19/the-darling-of-san-diego-solar-manufacturing-is-on-its-death-bed/>

SDG&E Ending Ties To Rancho Bernardo Solar Company

Friday, December 19, 2014

By Hoa Quach

San Diego Gas & Electric on Friday said it no longer has a relationship with a solar company that opened in Rancho Bernardo two years ago.

France-based Soitec opened its U.S. headquarters in San Diego after announcing a partnership with SDG&E to produce solar energy. The deal was solidified in [2011 when the two companies](#) signed five contracts that required Soitec to provide 155 megawatts of solar-generated energy — or enough power for 60,000 households. The company also received a [\\$25 million grant from the U.S. Department of Energy](#).

But the relationship between Soitec and SDG&E is now in jeopardy, according to the [Voice of San Diego](#).

Voice said that Clark Crawford, San Diego's Soitec chief, provided a statement that said the "company has sought meetings with SDG&E for weeks in hopes of discussing the future of its contract" but was unsuccessful. "If they continue to decline a meeting with us today we fear they may allow the power purchase agreements to just terminate."

Soitec did not respond to a request for comment from KPBS on Friday.

SDG&E said in a statement that it has "taken unprecedented action to work with Soitec, amending contracts, extending milestone deadlines and seeking additional CPUC approvals over the years so that we could bring additional renewable resources into the San Diego community, but Soitec has historically not been able to meet the extended deadlines and other milestones in the contracts."

Soitec also sold its contracts to third-party developers earlier this year, according to SDG&E. "Therefore, we no longer have a direct business relationship with Soitec," the utility said.

SDG&E said Soitec has registered to bid on providing the utility with 500 to 800 megawatts of electricity. SDG&E said it looks "forward to working with them on future endeavors."

<http://www.kpbs.org/news/2014/dec/19/relationship-ends-between-solar-company-sdge/>



December 19, 2014

MEDIA STATEMENT

San Diego Gas & Electric (SDG&E) issued the following statement from Victor Vilaplana, vice president of electric fuel and procurement for SDG&E in response to Soitec selling its interest in five power purchase agreements with SDG&E:

"Since 2011, SDG&E, along with other regional partners, have worked very hard to bring Soitec to San Diego with a focus on helping them be successful. SDG&E has taken unprecedented action to work with Soitec, amending contracts, extending milestone deadlines and seeking additional CPUC approvals over the years so that we could bring additional renewable resources into the San Diego community, but Soitec has historically not been able to meet the extended deadlines and other milestones in the contracts.

Earlier this year, Soitec assigned their contracts to third-party developers. Therefore, we no longer have a direct business relationship with Soitec.

SDG&E remains committed to bringing clean, renewable power to our customers and has taken a leadership effort on that front. In 2013, we delivered more than 23 percent renewable energy and we expect to be the first investor-owned utility to reach 33 percent early next year, over five years ahead of schedule.

In fact, we're proud to announce the Sunrise Powerlink is now delivering over 1,000 MW of new renewable energy all to San Diegans.

Soitec has registered to bid into SDG&E's current solicitation for between 500-800 MW of new local resources and we look forward to working with them on future endeavors."



Soitec updates its 2015 and 2016 financial guidance

Berlin, France, December 22, 2014 — Soitec, a world leader in generating and manufacturing revolutionary semiconductor materials for the electronics and energy industries, announced today that several significant updates on major solar projects drive an update on its 2015 and 2016 financial guidance.

In California, Soitec had sold to a large Energy Service provider 150 MW(AC) of Power Purchase Agreements ("PPAs") with San Diego Gas & Electric ("SDG&E") for a solar project under development in California (see press release dated October 23, 2014). Soitec has been informed by the new owner of the PPA contract that they are facing a major roadblock which prevents the project to materialize. Certain of the administrative conditions pertaining to the transaction could not be fulfilled timely. Soitec will therefore not receive the expected CPV systems order from the designated EPC contractor which was anticipated to leverage its US cost base. Soitec continues to explore new opportunities with its local partners in order expand its US pipeline.

In South Africa, Soitec successfully completed all requested testing procedures and got confirmation from the South African utility (Eskom) for the final commissioning of the 44MWp solar plant. This major milestone evidences the technical capabilities, the reliability and performance of Soitec's CPV technology; it should also trigger the awaited cash collection related to the project.

As a consequence of the recast of the Solar Energy division's anticipated sales until the end of the current fiscal year and for the next fiscal year, supported by a project pipeline for the 2015-2016 fiscal year around 70MWp in equipment sales, Soitec will implement an immediate scale down of its San Diego facility and related cost control actions in accordance with current pipeline. But The Group is now anticipating that its current operating loss will not be significantly reduced in H2 compared to H1. It is further anticipated that a specific impairment charge shall be recorded in H2 FY14-15 in order to reflect on the adjusted US pipeline of projects.

In the Electronic division, the anticipated FDSOI ramp up and continued growth on RF SOI applications will drive a significant top line growth and increase in profitability in fiscal year 2015-2016 driven by operating leverage on cost base and current existing capacities. The Group is anticipating confirmation about volumes production from major foundries already committed on FDSOI adoption over the next financial year.

Therefore in relation with the decrease of the US solar projects pipeline, but also potential new projects in different countries and positive momentum in its electronic activities, the Group will reassess before the end of the current fiscal year its objectives for the 2015-2016 fiscal year.

Agenda

The sales for the third quarter of the 2014-2015 fiscal year will be published on January 19, 2015, after the closing of the Paris stock exchange.

About Soitec:

Soitec is an international manufacturing company, a world leader in generating and manufacturing revolutionary semiconductor materials at the frontier of the most exciting energy and electronic challenges. Soitec's products include substrates for microelectronics (most notably SOI : Silicon-on-Insulator) and concentrating photovoltaic systems (CPV). The company's core technologies are Smart Cut™, Smart Stacking™ and Concentrix™, as well as expertise in epitaxy. Applications include consumer and mobile electronics, microelectronics-driven IT, telecommunications, automotive electronics, lighting products and solar power plants for large-scale utilities. Soitec has manufacturing plants and R&D centers in France, Singapore, Germany, and the United States.

For more information, visit: www.soitec.com.

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Concentrated PV investment pushes Soitec to €70 M operating loss

19 Nov 2012

But the diversifying semiconductor materials company says that its cash situation is "under control".

France-based **Soitec**, best known as a manufacturer of advanced semiconductor wafer materials, has revealed a net loss of more than €132 million for the first half of its fiscal year 2013.

The loss is the result of a major investment in concentrated photovoltaics (CPV) manufacturing infrastructure, combined with the semiconductor market moving back into a slump, with reduced demand for Soitec's wafer products.



Soitec CPV systems

That combination has wiped out a large chunk of the company's cash reserves, which has nearly halved in the past six months. It fell from €260 million on March 31 to just €131 million as of September 30.

However, the company insists that with the investment in scaling up operations at its CPV module production facilities in Freiburg, Germany, and San Diego, California, now largely accounted for, the cash "burn" is under control.

Soitec, which is also diversifying into the LED lighting market, now has a combined manufacturing capacity of 210 MW (peak) at its two production sites: 70 MW (peak) in Freiburg and 140 MW (peak) in San Diego. The latter site was built as part of a **deal to make modules close to the company's largest planned utility installations**, and should eventually double in capacity.

However, at present the market for CPV is limited and funding across photovoltaics remains tight. According to market analysts at Navigant Consulting, the global market for CPV was approximately 62 MW in 2011, and may only grow very slightly from that total this year.

PV market: now following the sunshine

In the six-month period ending September 30, Soitec's solar division did book €4.2 million in revenues and delivered 5 MW (peak) of CPV generating systems to a site in Italy.

But such was the required investment in the company's CPV operation that its solar business division posted an operating loss of €40 million on those modest sales, while an additional €5 million relating to obsolete equipment in Freiburg was also written off.

Soitec will be hoping that Navigant's "accelerated" forecast – which predicts that the market for CPV installations could approach 1.5 GW in 2014 – will turn out to be correct. However, the likelihood is that the rate of growth will be much slower than that, and the same firm's more conservative outlook pegs the market at only 650 MW for the same year.

Rival analysts at IMS Research have suggested that there could be 1 GW of demand by 2016, while Greentech Media's prediction for the same year is 1.4 GW. Lux Research's forecast is for **31% compound annual growth through 2017**.

One clear trend in favor of Soitec is the expected shift in deployments towards much sunnier locations – countries where CPV promises to be more cost-effective than conventional flat-plate photovoltaics.

In 2011, these so-called "emerging" PV markets accounted for less than a quarter of global PV deployments (according to Greentech Media's figures). But with many European incentives for PV installations cut back or suspended since then, it will be the largely sunnier North American, Chinese, Indian, Middle Eastern and even African markets driving future growth.

South Africa deal

Soitec is itself enjoying some success in Africa, having recently signed a power purchase agreement (PPA) to construct a **44 MW (peak) CPV** installation in South Africa. Soitec is hopeful that this project – which currently **requires refinancing** – could be completed during 2014, with the first systems in place by the middle of next year.

Gaetan Borgers, the executive VP of Soitec's solar energy division, said of the planned South Africa project: "Approval of the power purchase agreement by the South African Ministry of Energy and its signature by national electricity supplier Eskom represent a major step forward in the expansion of our business in South Africa and generally worldwide."

If and when this project is refinanced, it will represent one of the largest CPV projects in the world – and will provide a large boost to Soitec's sales figures in the process. However, the company's planned 350 MW-plus (peak) of installations near San Diego should soon eclipse that total.

At that point, Soitec's revenues should be far less dependent on the cycles of the semiconductor industry, but in the short term the company is facing a real challenge in two difficult market segments.

In the first half of fiscal 2013, the semiconductor industry downturn saw sales from its electronics division slump by nearly a quarter year-on-year, to €126 million, as volume demand declined and wafer pricing came under pressure. Combined with the solar division's investments, Soitec's total operating loss was a worrying €70.2 million.

With the short-term level of demand in the semiconductor market looking very uncertain, Soitec has also instituted a cost-cutting program within its electronics division that is designed to reduce annual expenses by €20 million.

The company is currently in negotiations with trade unions to look at ways to make savings on payroll expenses at its Bernin, France, site, while other locations within the firm's electronics segment are also currently implementing cost-cutting measures.

<http://optics.org/news/3/11/29>



FUNDING INFORMATION \$25.0M | Scaling Up Nascent Photovoltaics AT Home | 09/2012–04/2014

Project Description

Soitec is an international industrial manufacturing company that develops and manufactures semiconductor materials and concentrating photovoltaic (CPV) power plant technology. SUNPATH is assisting with building a highly automated 280-megawatt-peak (MWp) factory in San Diego (also known as SANFAB) for the production of its CPV modules, which have efficiencies of approximately 30%, compared to the 15%–20% efficiency of non-concentrating flat-plate PV modules.

Individual Reviewer Comments

- Co-location of a U.S.-based research and manufacturing footprint will shortcut cycles of learning significantly. In addition, the project having significant investment from partners illustrates commitment to the technology. Progress toward factory build-out has also been demonstrated, and the thermodynamic efficiency of the CPV approach is much higher than simple flat-plate PV technologies.
- Project strengths include high automation, lean approach, quality systems approach, deployed products, project pipeline filled, and milestones completed. The technology is well-understood and proven.
- The project is funded at around \$110 million with a \$91 million cost share. The funding level is very strong for the proposed project and will help ensure a successful launch of the manufacturing facility and the CPV module product.
- The project objective is to deploy a 280-MWp factory to supply PV systems in high direct normal irradiation regions, creating domestic jobs and spurring the CPV industry. In these regards, the project will prove to be impactful to the program goals.
- The aim of the project is to deploy a 280-MWp solar module factory in the United States to make Fresnel lens, high-magnification CPV modules with efficiencies approaching 30%. A high degree of automation, manufacturing tools based on existing industry (printed circuit board and automotive), and a lean/quality focus will allow low-cost manufacturing. Therefore, the project goals are relevant to the SUNPATH program goals.
- The approach is straightforward to fit out and operate the factory. Application of manufacturing principles for high-volume products should prove beneficial in reducing cost of goods manufactured (COGM). Results to date demonstrate that the factory fit out and ramp has been very well executed. Therefore, the approach is appropriate for the goals of the project.
- A robust, continuous-improvement and cost-reduction plan/roadmap would strengthen the likelihood of a sustainable and profitable future. Ongoing reliability monitoring would also prove beneficial.
- Absent data from the narrative and poster make it difficult to review the progress toward the deliverables. Cost compression progression and performance milestones are unclear.
- Substantial funding outlay by both the U.S. Department of Energy (DOE) and project team seems heavy for 280-MWp capacity compared with GTM figures of less than 20 million U.S. Dollar/100 MWp for conventional crystalline silicon plants.

- There are concerns over program goals of ramping proprietary technology for an individual corporation's interests in lieu of demonstrating merit of technology. Please clarify.
- The lesson learned from the Solyndra experience was that cost efficiency trumps thermodynamic efficiency any day. Although the Solyndra thermodynamic efficiency was similarly very high, in the end, they could not compete with the lesser thermodynamic efficient, but lower-cost flat-plate PV products.
- This proposal would have been much stronger if it had included cost projections showing that Soitec will not experience a similar fate. The authors have not addressed whether their high-volume production will lead to levelized costs of energy that support the SunShot goals. Further, developers of simple PV products forecast additional future cost reductions beyond today's prices. Soitec must show that its projected future costs are not only lower than today's flat-plate PV prices, but also competitive with tomorrow's prices as well.
- The author seems to rely on the sunk costs of the DOE's prior investments as justification for continued funding. However, absent cost projections, the viability of this investment cannot be judged.